



Vitals Web User Manual

Revision 4.0

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1. Vitals Web and Product Web environment

1.1 Introduction

The present User Manual describes the features and functions of the [Vitals Web](#) application.

The [Vitals Web](#) application is intended to permit data entry and display for a variety of clinical workflows, procedures and protocols within the healthcare services domain. Just as examples:

- Patient vital signs data collection for normal wards.
- Patient data collection for clinical protocols associated to specific diseases, treatments or prevention of diseases.
- Generation of reminders for periodic data collection or patient examination and documentation of the activity performed and provided services.
- Documentation of patient conditions also by means of pictures and audio recordings.

**IMPORTANT!**

The [Vitals Web](#) application presented in this User Manual is optimized for Ascom Telligence Staff Station and in general for devices with touch screen display panel and screen resolution 740x420.

1.2 Important Warnings

**IMPORTANT!**

For general and detailed information about the Product environment and the instruction for use of the Control Bar desktop software see last updated version of the document *Control Bar User Manual*. The knowledge of this document is necessary for a correct and safe use of the Digistat Web applications.



Only the native Telligence Staff Station browser is supported for use with Vitals Web application.



Only supported Web Browsers shall be used for Product web applications.



When the local network is at least partially based on WiFi connections, given the intermittent nature of WiFi connections, disconnects could occur which activate the Disconnected Mode (grey carpet covering Product Web) and thus the system may not be available. The healthcare structure must work to ensure optimal WiFi coverage and instruct the staff on how to handle these temporary system outages

2. Using Vitals Web

2.1 Application start-up

To start the [Vitals Web](#) application:

- Touch the corresponding icon on the device screen

The [Vitals Web](#) login screen, shown in Fig 1, will open.

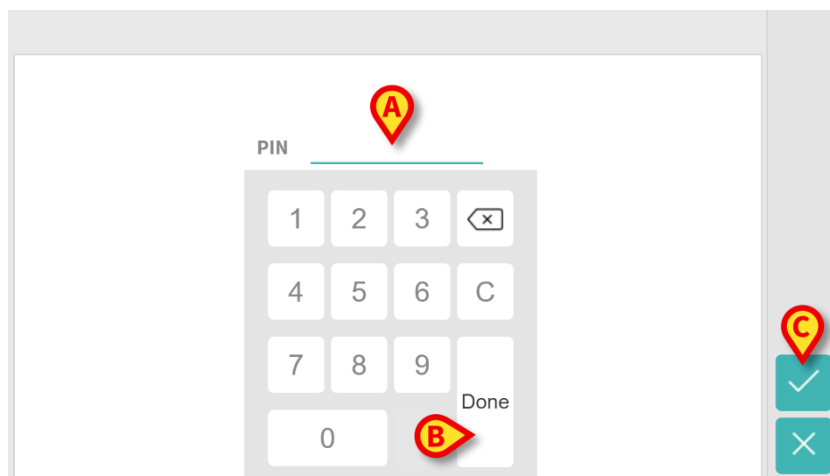


Fig 1

2.2 User login

The [Vitals Web](#) requires the user is logged in. This is intended for safety purposes.


Two different methods to login are implemented in the [Vitals Web](#):

1. Login via username and password;
2. Login via “pin code”.

The System Administrator can choose if one of the above login methods have to be used. In addition, the System Administrator of the Healthcare Structure will provide the allowed users the username and password or the numeric “pin code” to access the [Vitals Web](#).

In the present User Manual, only the login method via “pin code” is presented.

To log in the **Vitals Web** application:

- Insert the “pin code” in the “PIN” field (Fig 1 **A**) by touching the proper numbers on the screen;
- Confirm by pressing the “Done” button (Fig 1 **B**) or the “Confirmation button”  (Fig 1 **C**)

The **Vitals Web** patients list screen, shown in Fig 2, will open.

2.3 Patients list

The **Vitals Web** patient list screen (Fig 2) displays the list of beds configured on the handheld device (namely, the device “domain”).

The domain of a specific Telligence Staff Station is defined by configuration. In case there is no patient on one of the configured beds, then the bed is not displayed. If the Telligence Staff Station has only one bed configured, the patient selection screen (Fig 2) is skipped and configured dataset list of the patient is automatically shown (Fig 4).

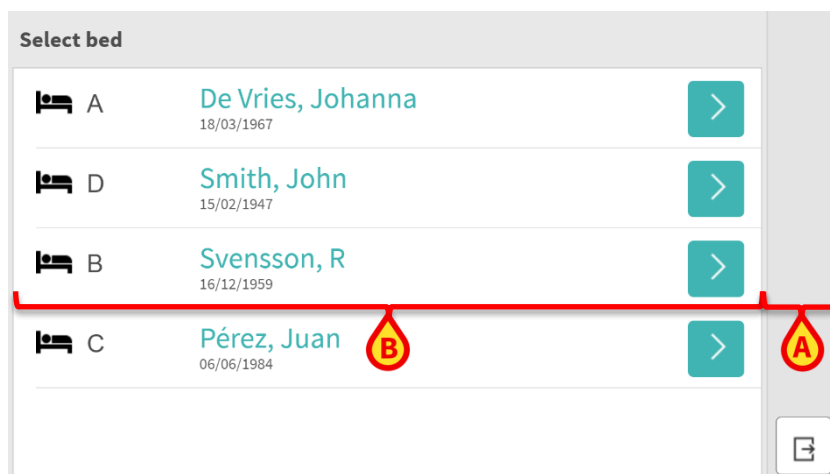


Fig 2

The patient list screen is formed of a button bar (Fig 2 **A**) and the list of beds (Fig 2 **B**).

2.3.1 Button Bar

Fig 2 **A** shows the button bar of **Vitals Web** in the patient list page.

The button bar can collect different buttons depending on the displayed page. The possible buttons are listed below:

Button	Symbol	Description
Confirmation		Confirm a data inserted in a field
Discard		Discard a data inserted in a field
Add	or or	Starts the data insertion procedure for the Dataset
Display		Displays the data of Dataset or Dataset parameter
Back		Go to page displayed previously (or upper level)
Next Page		Go to next page (for data displayed in multiple pages)
Previous Page		Go to previous page (for data displayed in multiple pages)
Related Item		Summary view of data contributing to Dataset evaluation
Information		Show information text related to Dataset value
Edit	or	Edit the Dataset parameters
Show description		Show description of score value
Hide description		Hide description of score value
Exit		Exit the Vitals Web application
Configuration		Configuration and enabling of the Dataset
Switch		Switch to enable or disable a Dataset
Date		Inserts current Date/Date and Time into proper Datasets
Show Data		Shows original data in NumericList Datasets Summary

2.3.2 List of beds

In the list of beds each bed is represented by a “bed tile” (Fig 3).



Fig 3


In the “bed tile”, the following information is displayed:

- bed number (Fig 3 **A**);
- number of notifications overdue (if any - Fig 3 **B**);
- name of patient on that bed (Fig 3 **C**);
- patient data (if available: sex, age, date of birth, patient ID - Fig 3 **D**).

2.4 Datasets list

The term “Dataset” refers to a structured set of data, considered as a whole. It can be, for instance, a score calculation, a set of vital parameters etc. For each patient a list of Datasets can be configured. If the Datasets are enabled, they will be collected in the “Datasets list” for the considered patient.

To access the “Datasets list” i.e. the list of Datasets enabled for the considered patient:

- Touch the  icon of the considered patient (Fig 3).

The “Datasets list” page, shown in Fig 4, will open.

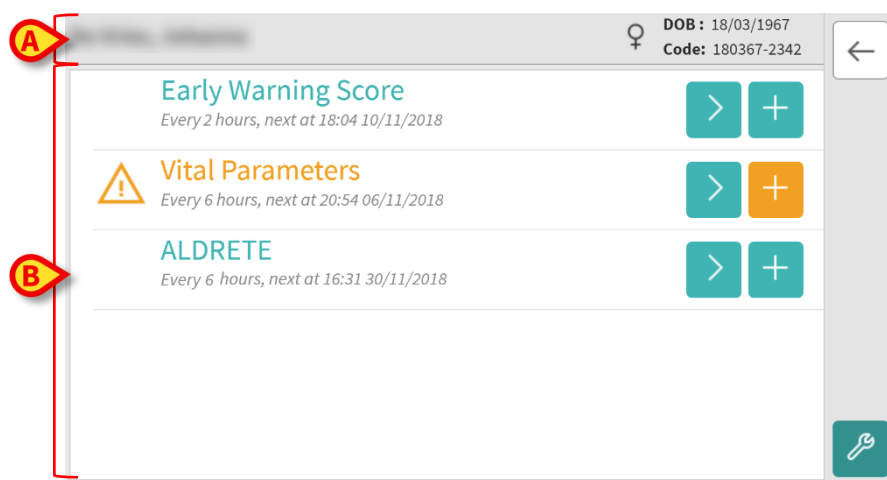


Fig 4

The “Datasets list” screen is formed of two areas: a heading area (Fig 4 **A**) and the list of datasets (Fig 4 **B**).

The heading area displays the following information:

- name of patient on that bed;
- patient data (if available: sex, age, date of birth, patient ID).

Please note that in the following pages of [Vitals Web](#) application the heading area of a selected patient ever remains visible.

In the “Datasets list” the datasets are displayed in “Dataset tiles”. Each “Dataset tile” represents a dataset.

The information displayed inside the “Dataset tiles” depends on the kind of dataset and the way the dataset is configured.

Fig 5 shows an example of a “Dataset tile”.

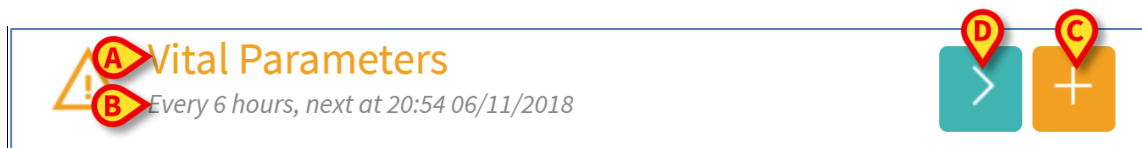



Fig 5

The Dataset name is displayed inside the tile (Fig 5 **A**).

Below the Dataset name, information is displayed relating the data acquisition modalities (i.e. when the Dataset shall be acquired, when is the next acquisition due etc. - all these data depend on how the Dataset is configured - Fig 5 **B**).

The  button (Fig 5 **C**) makes it possible to insert new data (see paragraph 0).

The  button (Fig 5 **D**) makes it possible to display the previously acquired data.

The Dataset can be configured for being acquired every certain time interval. In this case the Dataset will be like the one shown in Fig 5. In addition in Fig 5 **B** is indicated the scheduled time interval.

The Datasets can be configured to provide a notification at scheduled times, as a reminder, when they should be acquired. If the scheduled time elapses, the following symbol will be shown in the Dataset tile, meaning that an action was due at a certain time but the action was not performed:




The same symbol can be shown in the patient list in the patient tile.

A badge will be shown on the Telligence Staff Station icon in case of expired datasets.

In addition, the button to insert new data has a different color:



If the  button is not present in the Dataset tile it means the Dataset itself is not enabled (see paragraph 3 for more information), or that the user has permissions to modify it but not to change it. The Dataset tile is however displayed because past data exists for such a Dataset, which can be still viewed.

In this case the Dataset tile will be like the one in Fig 6. This figure is referred to the special case of Score type Dataset.

Early Warning Score

Every 2 hours, next at 18:04 10/11/2018

>

+

Fig 6

Once is requested to display the previously acquired data, the following page will be displayed (“Dataset Records” – Fig 7 and Fig 8):

De Vries, Johanna		DOB : 18/03/1967 Code: 180367-2342	
	15:47 07/11/2018	17:04 05/11/2018	
Score	6	12	
Respiratory rate	1	3	
Oxygen Saturation (SPO2)	2	2	
Temperature	1	2	
Systolic BP	0	2	
Heart rate	1	2	
AVPU	1	1	

Fig 7

Fig 8 is the same as Fig 7. Because the data composing the considered Dataset can exceed the number of rows represented in a single page, they are organized in a scrollable page.




De Vries, Johanna		DOB : 18/03/1967 Code: 180367-2342	
	17:04 05/11/2018	16:41 05/11/2018	
Oxygen Saturation (SPO2)	2	2	
Temperature	2	2	
Systolic BP	2	2	
Heart rate	2	2	
AVPU	1	1	
			

Fig 8


For each entry (i.e. a set of values), date and time are displayed on top. The recorded values are displayed below. See for instance the column indicated in Fig 7 **A**.

The “pen” icon indicated in Fig 8 **A** means that the corresponding score can be edited by the user. Otherwise, no icon is displayed.

The button  in the button bar, for Score type Datasets, shows the description of acquired data at the top of the column (Fig 9 **A**) and the usual range of inserted parameters (Fig 9 **B**).

De Vries, Johanna		♀	DOB : 18/03/1967 Code: 180367-2342	←
	17:04 05/11/2018	16:41 05/11/2018		<
Score	<div> <div>A</div> <div>Increased likelihood of death or admission to an intensive care unit</div> </div> <div> <div>Increased likelihood of death or admission to an intensive care unit</div> </div>			>
Respiratory rate	<div> <div>B</div> <div>< 7 bpm</div> </div> <div>9-20 bpm</div>			
Oxygen Saturation (SPO2)	85-89%		85-89%	
Temperature	34-34.9°C		34-34.9°C	
Systolic BP	70-79 mmHG		70-79 mmHG	
Heart rate	30-39 bpm		30-39 bpm	⋮
				+

Fig 9

To hide the score description shown in Fig 9 **A** and the parameters range shown in Fig 9 **B** it is sufficient to push the button  in the button bar shown in Fig 9 **C**.

In case the data previously acquired have a measure unit, like for example Systolic Blood Pressure, Heart Rate, etc. it will be also shown (Fig 10).




Vital Parameters		♀	DOB : 18/03/1967 Code: 180367-2342	←
			1 / 13	<
		12:22 15/07/2019	12:18 15/07/2019	13:26 09/07/2019
Respiratory Rate	bpm	20.37	20.37	18
Oxygen Saturation (SPO2)	%	98	95	99
Systolic BP	mmHg	122	155	121
Temperature	C°	36	36	37
Heart Rate	bpm	71	68	58
				
				+

Fig 10

2.4.1 How to record a new set of data

To record a new set of data

- Touch the  icon on the tile corresponding to the wanted dataset (Fig 11).



<div>Early Warning Score</div> <div>Every 2 hours, next at 18:04 10/11/2018</div>	 
---	---

Fig 11



The data entry screen will be displayed.

The data entry screen features depend on the kind of Dataset selected.

See Fig 12 for an example of “Parameter” type Dataset, where for the considered data the user is requested to insert the numeric values:

Fig 12

For “Parameters” type Dataset, data specification is divided in a number of different screens (one for each kind of data/question/parameter). The user is requested to:

- Touch the “Confirmation” button  to save the data inserted in the Dataset (Fig 12 **B**).
- Touch the “Discard” button  to cancel the data inserted in the Dataset (Fig 12 **C**).




See Fig 13 for an example of “Score” type Dataset, where for the considered data the user is requested to choose among some configured values:

Fig 13



A Score Dataset can be configured to indicate with a color code the degree of urgency/severity of the available values. The same color code will be then applied to the final

result. In addition, it is possible to configure a text indication about the therapy/treatment that can be associated to a certain results range.

For “Score” type Dataset, data specification is divided in a number of different screens (one for each kind of data/question/parameter). The user is requested to:

- Insert the required value/s on each screen (Fig 13 **A** and Fig 12 **A**).
- Move to next/previous screen using the arrows  and  indicated in Fig 13 **B** and Fig 12 **B**.
- The arrows  indicated in Fig 13 **B** and Fig 12 **B** has to be used even if the last data of the Dataset was just inserted and the user is going to save data.

In addition, the user can do one of the following actions:

- Stop data insertion and go back to Datasets list page ( - Fig 13 **C** and Fig 12 **C**).
- Skip data insertion and go to Dataset Summary page ( - Fig 13 **D** and Fig 12 **D**). See Fig 14 for Dataset Summary page.

When all the (relevant/known) values have been specified, for Score type Datasets the Dataset Summary page is displayed (Fig 14):

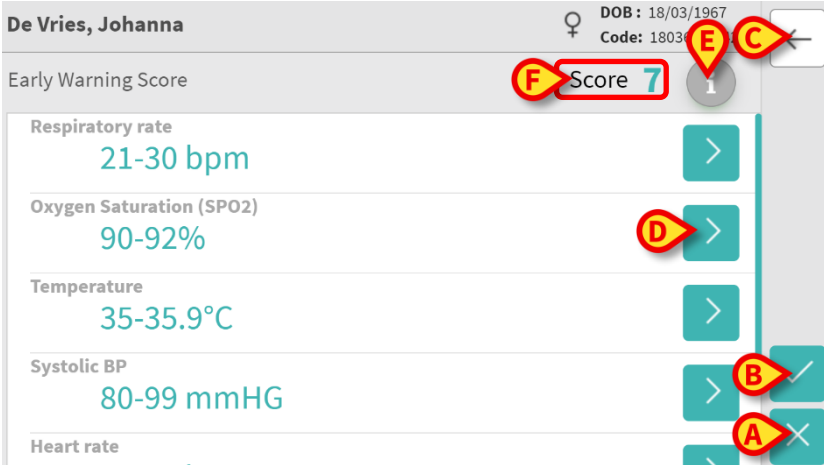







Fig 14

The user is requested to:

- Touch the “Confirmation” button  to save the data inserted in the Dataset (Fig 14 **A**).
- Touch the “Discard” button  to cancel the data inserted in the Dataset (Fig 14 **C**).

In addition, the user can do one of the following actions:

- Touch the “Back” button  to go to previous page.
Please note if the user touches again the “Back” button then the data insertion procedure will be stopped and the Datasets list page will be shown (Fig 4).
- Touch the “Display” button  to visit the page related to a specific parameter inserted in the Dataset itself. The page related to the considered parameter will be shown (just as example Fig 13 and Fig 12).
- Touch the “Information” button . A pop up window will be shown containing the text configured for the range value of the considered Dataset (Fig 15). A confirmation from the user is thus expected.

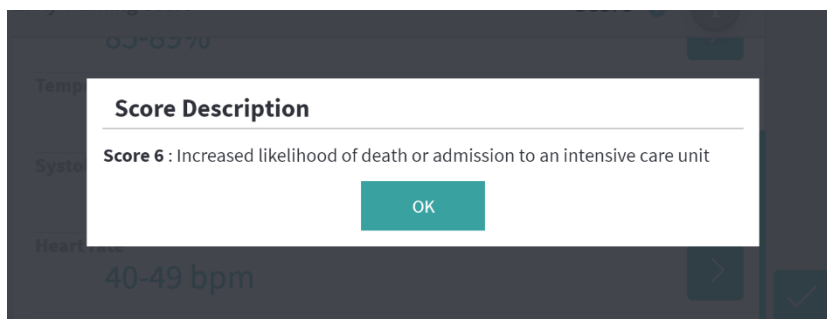


Fig 15

In addition to the insertion scheme above explained, it is moreover possible to configure the Dataset in order to show all the requested parameter in a single page (Fig 16).

Fig 16

The **Vitals Web** can be configured to consider as “Valid” only the values included in a determined range and to therefore not accept values outside the configured range.

If values outside the range are inserted, the **Vitals Web** rejects them with a message informing the user about the range of acceptable values. See for instance Fig 17 **A**.

DOB : 18/03/1967
Code: 180367-2342

Vital Parameters

Respiratory Rate 23 bpm

Oxygen Saturation (SPO2) 95 %

Systolic BP 120 mmHg

Temperature 3 C°
Temperature must have a value between 32 and 45

Fig 17

Please note that certain parameters (just like Respiratory Rate or Oxygen Saturation) for some patients are currently measure from devices connected to patients itself. In these cases, the currently measured value is automatically inserted: the user can anyway change it:

DOB : 15/02/1947
Code: 150247-8527

Vital Parameters

Respiratory Rate 19 bpm

Oxygen Saturation (SPO2) 94 %
* About 18 days ago

Systolic BP _____ mmHg

Temperature _____ C°




Fig 18

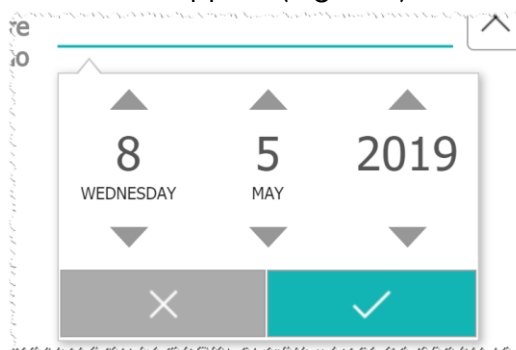
Dataset can also take into account the date or date-and-time inserted by the user by means of specific entry type.



Please consider as example the following pictures, representing the same entry type “Date” (Fig 19):



Fig 19

By means of “Date” entry type, the user can select and insert into the properly configured dataset the current date value.

- Touch the  icon to insert the current date (Fig 19 A);
- Touch the  icon to cancel the inserted value (Fig 19 B);
- Touch the space above the date line  to insert a specific date. The following popup window will appear (Fig 19 C):



Use the buttons **Arrows** ▲ and ▼ to select the requested date, the button **Select**  to insert the selected data and the button **Cancel**  to cancel the selected data and hide the popup window. Do these actions also to update a value previously inserted.

- Touch the “Confirmation” button  to save the data inserted in the Dataset (Fig 19 D);
- Touch the “Discard” button  to cancel the data inserted in the Dataset (Fig 19 D).




By means of “Date-and-Time” data entry, the user can select and insert into the properly configured dataset a specific date and time value.

DT6P

Planned Intervention Date

DOB : 15/02/1947
Code: 150247-8527

Fig 20

- Touch the  icon to insert the current date and time (Fig 20 **A**);
- Touch the  icon to cancel the inserted value (Fig 20 **B**);
- Touch the space above the date and time line  to insert a specific value (Fig 20 **C**). The following popup windows will appear (Fig 21 and Fig 22):

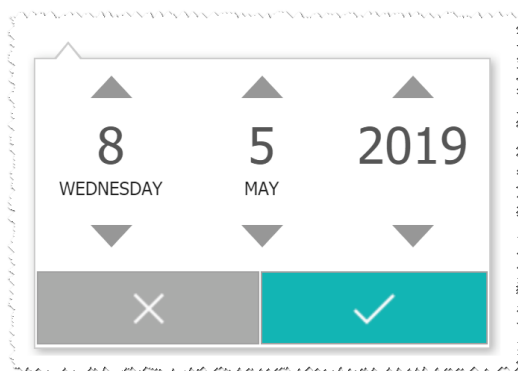


Fig 21

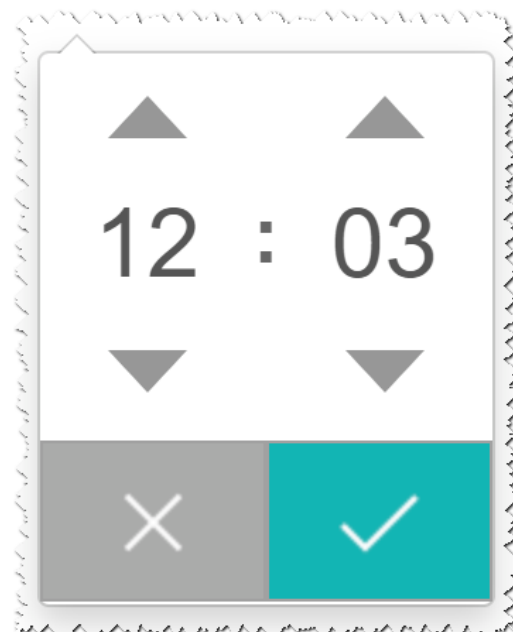


Fig 22

Once the user inserts the requested date, then the time popup window will open automatically.

The “OpenList” entry type collects elements usually not taken into account for scores. Some items of the list can be configured to be suggested: the user can however set a specific value different than the ones suggested. The “OpenList” dataset is displayed below (Fig 23):

Fig 23




- Touch the button  to display and select one of values of configured list (Fig 23 **A**). The following pop-up window will open allowing thus the selection (Fig 24):

Fig 24

- Touch the “Confirmation” button  to save the data inserted in the Dataset (Fig 23 **B**);
- Touch the “Discard” button  to cancel the data inserted in the Dataset (Fig 23 **C**).

The “NumericList” entry type is related to score datasets. The user inserts a numeric value: such a value is mapped on an item label concurring to the calculation of the score itself.



- Touch the space above the parameter line  to insert a specific value. A numeric keyboard will appear allowing the user to insert the requested value.
- Insert the proper value the parameter requested by the score and for each screen press the **Done** button. The score will be in this way calculated (Fig 25).

Fig 25

- Touch the **Next page** button to view the Dataset Summary page (Fig 26)

Fig 26

- Touch the **Display** button to show the data insertion page (Fig 25 A);
- Touch the **Confirmation** button to save the data inserted in the Dataset (Fig 25 B);

- Touch the **Discard** button  to cancel the data inserted in the Dataset (Fig 25 C).

The “NumericList” entry type can be in addition configured to read data from connected devices by means of installed drivers. Let us consider the example below (Fig 27):

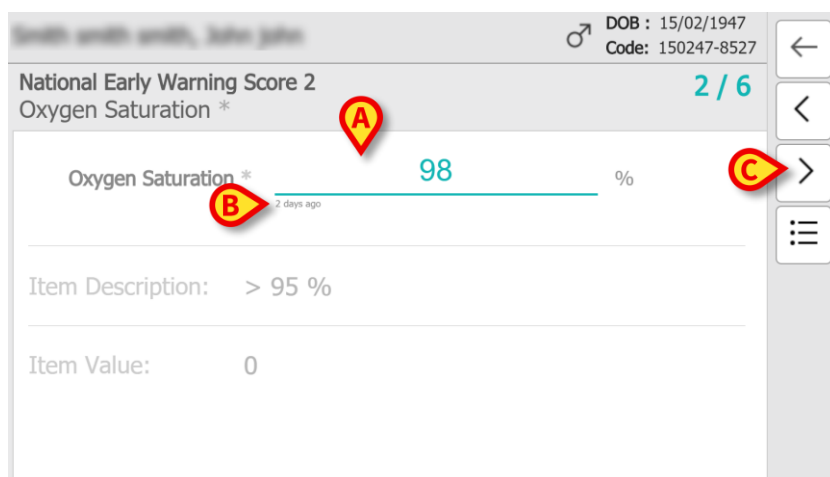



Fig 27

- The numeric value (Fig 27 **A**) is automatically read from the driver;
- A time counter (Fig 27 **B**) informs the user about the time elapsed since the last data reading;
- Touch the **Next page** button  to view the next screen of the score calculation (Fig 27 **C**).

2.4.2 Inserted values summary

After one of the actions above explained the “Dataset Records” page, containing the last saved records for the considered Dataset, will be shown (Fig 28). Please note the screen features depend on the kind of dataset acquired.

See Fig 28 for an example.

Values	11:30 04/07/2019
Score	5
Breaths per Minute	0
Oxygen Saturation	0
Ventilation	2
Heartbeat	0
Consciousness	3
Temperature	0

Fig 28

The user can do one of the following actions:

- Touch the “Add” button to add another set of data (Fig 28 **A**). This was explained in Paragraph 2.4.1.
- Use the “Edit” button to edit the data of an existing set (Fig 28 **B**). This was explained in Paragraph 0.


In both the actions above described, the first page of data insertion for the considered Dataset will be shown. The only difference is that in case of Dataset “Edit” the parameters are yet valorized.

In case of “NumericList” entry type, the **Show Original Data** button can be displayed in the summary screen to view the original numeric data instead of the associated label.

- Touch the **Show Description** button . The following window will appear (Fig 29):

Description	11:30 04/07/2019
Score	
Breaths per Minute	Breaths per Minute
Oxygen Saturation	Oxygen Saturation
Ventilation	Ventilation
Heartbeat	Heartbeat
Consciousness	Verbal


Fig 29

- Touch the **Show Original Data** button  to view the original numeric data. The following window will appear (Fig 30):

Smith Smith Smith, John John		DOB : 15/02/1947 Code: 150247-8527	←
Actual Values		11:30 04/07/2019	<
Score		5	>
Breaths per Minute	bpm	12	
Oxygen Saturation	%	98	
Ventilation		2	
Heartbeat	bpm	66	
Consciousness		3	
Temperature	°C	37	
			⋮
			+

Smith Smith Smith, John John		DOB : 15/02/1947 Code: 150247-8527	←
Actual Values		11:30 04/07/2019	<
Oxygen Saturation	%	98	>
Ventilation		2	
Heartbeat	bpm	66	
Consciousness		3	
Temperature	°C	37	
			⋮
			+

Fig 30

- Touch the **Hide Description** button  to restore the original Summary page (Fig 28):

2.4.3 How to edit an existing set of data

To edit an existing set of data, on the Datasets list screen (Fig 31),

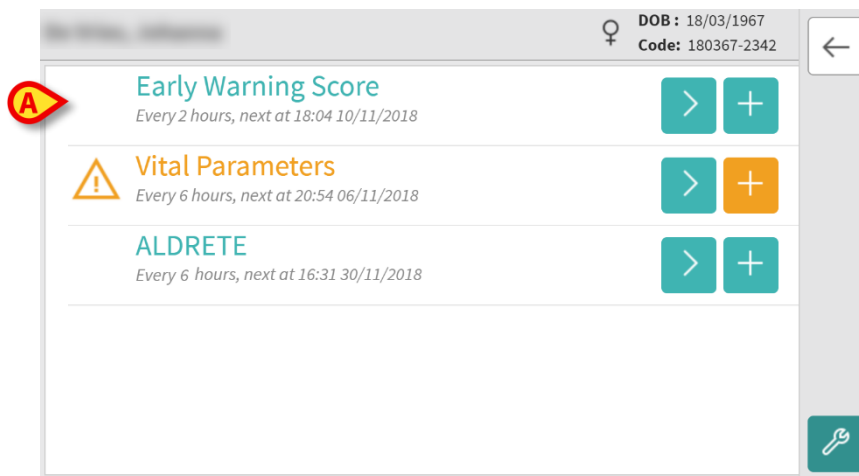




Fig 31

- Select the relevant Dataset (Fig 31 **A**, for instance) and touch the “Display” button . The acquired Datasets Summary page will open (Fig 32).

	17:04 05/11/2018	16:41 05/11/2018
Oxygen Saturation (SPO2)	2	2
Temperature	2	2
Systolic BP	2	2
Heart rate	2	2
AVPU	1	1

Fig 32

- Touch the “Edit” icon  corresponding to the set to be edited (Fig 32 **A**)

The data entry screen will open (Fig 33).

De Vries, Johanna ♀ DOB : 18/03/1967
Code: 180367-2342

Early Warning Score (11/12/2018 10:52 AM) 1 / 6

Respiratory rate

3 ☐ < 7 bpm

A ☒ 9-20 bpm

1 ☐ 21-30 bpm

2 ☐ 31-35 bpm

B >

Fig 33

- Edit inserted data (Fig 33 **A**).
- Navigate with arrow buttons (B) until Dataset Summary page is shown (Fig 14).
- Touch the “Confirmation” button ☒ to save the data inserted in the Dataset (Fig 14 **A**).


The Dataset is this way edited.

3. Configuration of Vitals Web



The functionalities described in this paragraph are reserved to “super users” or System Administrators and require therefore a specific permission level.

To access the Dataset Configuration page, after the patient selection, on the Datasets list screen (Fig 34),

- Touch the “Configuration” button  (Fig 34 **A**).

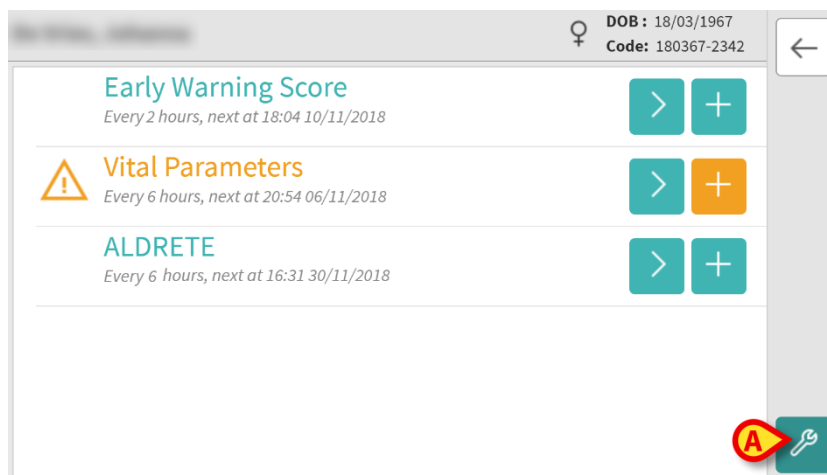


Fig 34

The list of all the existing Datasets (defined by configuration) will open (Fig 35). The list of all existing Dataset is configured. As previously noticed, if the number of configured Datasets exceeds the screen size then the Datasets list is paged.

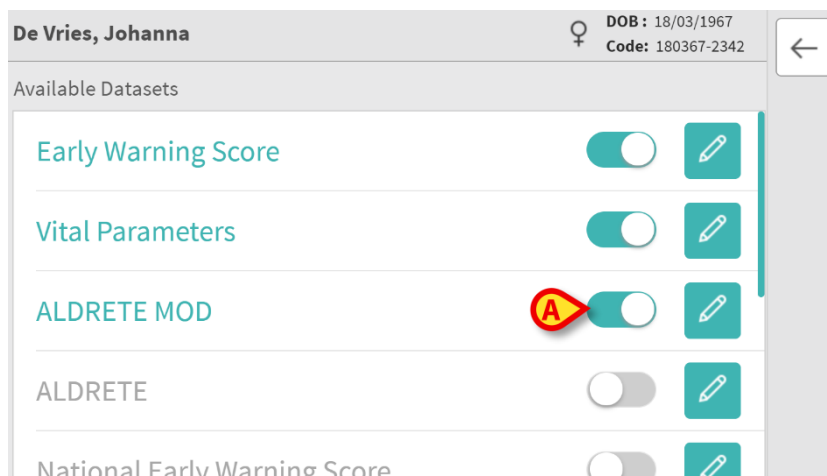
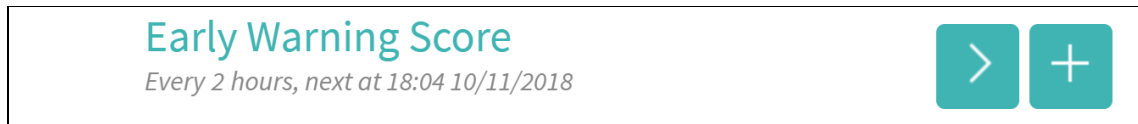


Fig 35.


Use the switch  to enable/disable a Dataset for the selected patient (Fig 35 **A**).

When the Dataset is enabled the “Add” button ( or ) is displayed within the Dataset tile (Fig 36 **A**).

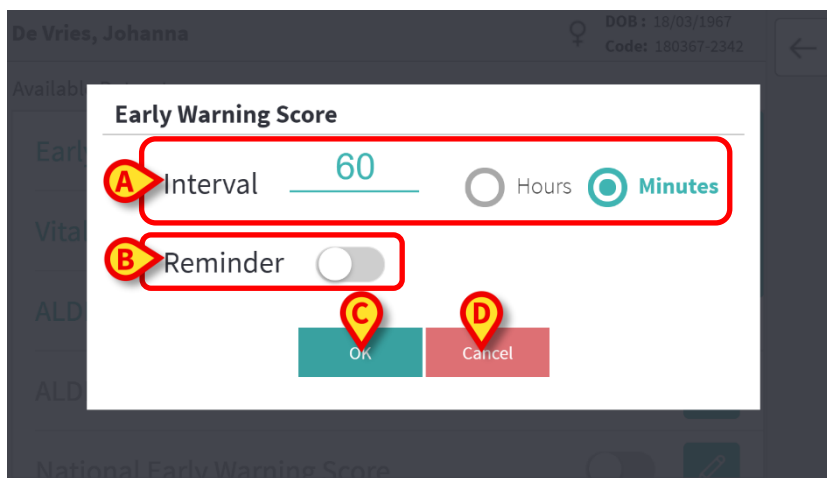
**Fig 36**

For each Dataset in the Dataset Configuration page the name is displayed.

To configure the Dataset

- Touch the “Edit” button  (Fig 36 **B**).

The following screen will open (Fig 37).

**Fig 37**

- Set the “Interval” field to decide the dataset timing value and measure unit (Fig 37 **A**).
- Select the “Reminder” checkbox to get automatic reminders on when the Dataset acquisitions are due (Fig 37 **B**).

After configuring the dataset,

- Touch the **OK** button to save the changes made (Fig 37 **C**).
- Touch **Cancel** to go back to the datasets list (Fig 37 **D**).